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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,910	05/05/2005	Masakazu Koizumi	24.023.TN	9732

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EXAMINER	
GODENSCHWAGER, PETER F	
ART UNIT	**PAPER NUMBER**
1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,910	KOIZUMI ET AL.	
	Examiner	Art Unit	
	Peter F. Godenschwager	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☒ Claim(s) *11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/25/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Objections

Claim 11 is objected to because of the following informalities: In line 4 of claim 11, the word "desaltor" appears to be a misspelling of delsalter. Appropriate correction is required.

Claim Rejections - 35 USC § 112/101

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 5, 7, 8, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 provides for the use of a quaternary ammonium compound, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 5 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 7 provides for the use of a quaternary ammonium compound, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 7 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 8 provides for the use of a quaternary ammonium compound, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 8 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 11 provides for the use of a quaternary ammonium compound, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process

applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 11 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Ries et al. (US Pat. No. 4,600,518).

Ries et al. teaches a corrosion inhibitor comprising greater 25-45% by weight of choline, [(β-hydroxyethyl) trimethylammonium hdyroxide] (1:12-23, 55-62 and 2:5-15).

Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Vercammen (US Pat. No. 7,279,089).

Vercammen teaches a method of adding choline, a compound of general formula (1) where R^1, R^2, and R^3 are methyl groups (hydrocarbon radicals with 1 carbon atom) and n=2, to a liquid used in a unit in a oil refinery process (2:65-3:10 and 3:32-39).

Claims 9 and 10 rejected under 35 U.S.C. 102(e) as being anticipated by Vercammen (US Pat. No. 7,279,089).

Vercammen teaches choline, a compound of general formula (1) where R^1, R^2, and R^3 are methyl groups (hydrocarbon radicals with 1 carbon atom) and n=2, as a corrosion inhibiting compound for a crude oil refinery unit that comprises a distillation column in an amount of 1 to 65% by weight (2:20-25, 2:65-3:10 and 3:32-39, 43-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimura et al. (JP Pub. No. 2002-129366A, English translation relied upon) in view of Vercammen (US Pat. No. 7,279,089).

Shimura et al. teaches a method of adding 50-200mg/L (which overlaps the claimed 1-50 mg/L of claim 6) of an amine to water going to a boiler (feed water for a steam generating unit) ([0005], [0008] of English translation).

Shimura et al. does not teach that the amine is an amine of general formula (1) of claim 5. However, Vercammen teaches the use of choline, a compound of general formula (1) where R^1, R^2, and R^3 are methyl groups (hydrocarbon radicals with 1 carbon atom) and n=2, as a corrosion inhibitor for metals (1:9-23 and 2:63-3:10). Shimura et al. and Vercammen are combinable because they are concerned with solving a problem of similar technical difficulty, namely the prevention of corrosion of metal surfaces by the quenching of corrosive acids with amines. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the choline of Vercammen with the method of Shimura et al. and would have been motivated to do so because Vercammen teaches that while other amines form a sticky solid when quenching acids, choline (the additive) does not (3:25-31).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braden et al. (US Pat. No 5,965,785) in view of Vercammen (US Pat. No. 7,279,089).

Braden et al. teaches a process of adding amines to a liquid that comes in contact with an atmospheric pipestill tower (atmospheric distillation column) in an amount to keep the bulk water condensate (which condenses at the top of the distillation column) at a pH of 5.5-6.5 (1:14-24, 3:17-25, and 5:3-12).

Braden et al. does not teach the method where a compound of formula (1) is added. However, However, Vercammen teaches the use of choline, a compound of general formula (1) where R^1, R^2, and R^3 are methyl groups (hydrocarbon radicals with 1 carbon atom) and n=2, as a corrosion inhibitor for metals in oil refinery systems (1:9-23 and 2:63-3:10). Braden et al. and Vercammen are combinable because they are concerned with the same field of endeavor, namely the prevention of corrosion in oil refinery process through the addition of amines. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the choline of Vercammen in the method of Braden et al. and would have been motivated to do so because Vercammen teaches that while other amines form a sticky solid when quenching acids, choline (the additive) does not (3:25-31).

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braden et al. (US Pat. No 5,965,785) in view of Vercammen (US Pat. No. 7,279,089).

Regarding Claim 11: Braden et al. teaches a process of adding amines to a liquid that comes in contact with an atmospheric pipestill tower (atmospheric distillation column) where the

amine may be added to the crude oil coming into the tower (which is after the desalter, see Fig. 1) (Fig. 1, 1:14-24, 4:66-5:12).

Braden et al. does not teach the method where a compound of formula (1) is added. However, However, Vercammen teaches the use of choline, a compound of general formula (1) where R^1, R^2, and R^3 are methyl groups (hydrocarbon radicals with 1 carbon atom) and n=2, as a corrosion inhibitor for metals in oil refinery systems (1:9-23 and 2:63-3:10). Braden et al. and Vercammen are combinable because they are concerned with the same field of endeavor, namely the prevention of corrosion in oil refinery process through the addition of amines. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the choline of Vercammen in the method of Braden et al. and would have been motivated to do so because Vercammen teaches that while other amines form a sticky solid when quenching acids, choline (the additive) does not (3:25-31).

Regarding Claim 12: Braden et al. does not teach the method where the amine is kept at 0.1-5 times the amount of salt content in the oil. However, Official notices is taken that it is well known in the art to optimize result effective variables such as relative concentration of amine to salt in the crude oil distilling process (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the relative amount of amine to salt in the crude oil distillation process and would be motivated to do so because, as Braden et al. teaches, the salt is directly responsible for producing the corrosive acid in the process (2:21-26). Therefore, based on the level of corrosion resistance required, one would want to adjust the acid quenching compound (amine) accordingly.

Regarding Claims 13 and 14: Braden et al. further teach measuring the pH of the condensate (condensed water) and adjusting the amount of amine accordingly (6:43-58). Braden et al. specify a pH range for the water condensate of the overhead accumulator of 5-6.5 as being corrosion safe (6:53-58).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached form PTO-892.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter F. Godenschwager whose telephone number is (571) 270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PFG pfg
January 17, 2008

MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER

22/Jan/08